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CANADIAN GRAIN COMMISSION

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Quality Service Innovation

Canada

The CGC

The Canadian Grain Commission (CGC) is a federal agency reporting to the Canadian Parliament through the Minister of Agriculture and Agri-Food. The CGC derives its authority from the Canada Grain Act. We

- Regulate grain handling in Canada
- Establish and maintain standards of quality for Canadian grains

Vision

Excellence in grain quality assurance

- We will maintain unbiased third-party objectivity.
- We will do what is good for the entire grain industry.
- The quality of grains, oilseeds and pulses is the focal point of our expertise.
- Quality is anything that enhances the value of Canadian grain.
- We are a business-like government organization.
  We will ask "Does it make sense?"
  We will work to our strengths.
  We will focus on clients needs.

Mission

To be a leader in providing grain quality management and quantity assurance, dedicated to excellent and responsive service supporting producers, all sectors of the grain industry and their customers.

Objectives

- Provide a safe and healthy workplace environment and human resource policies which attract and motivate employees
- Offer innovative, efficient and effective services
- Contribute to the marketability of Canadian grain
- Be a major partner in ensuring the safety of Canadian grain
- Monitor and certify the quality and quantity of grain
- Excel in grain quality research
- Encourage a viable, efficient grain handling system
- Enhance the integrity of grain transactions
- Uphold producers' rights

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Organization

The CGC is organized into the Executive, Corporate Services, Grain Research Laboratory (GRL), Industry Services, and Finance. Our head office is located in Winnipeg, Manitoba. Industry Services comprises five regions: Bayport, Eastern, Pacific, Prairie and Thunder Bay. The CGC employs approximately 700 employees.

The Executive consists of three commissioners, appointed by government, who set policy and provide leadership, and the chief operating officer who oversees operations. Assistant commissioners, also appointed by government, work closely with producers and other industry members in rural development. Assistant commissioners inform producers and the industry about the CGC's role and responsibilities and act as mediators.

The chair of the Grain Appeal Tribunal reports directly to the chief commissioner.

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The chair of the Grain Appeal Tribunal reports directly to the chief commissioner. The Tribunal is an independent committee appointed by the CGC. It examines appeals by those dissatisfied with the grade assigned on an official sample and makes a final decision.

Programs

We deliver a grain quality and quantity assurance program that results in consistent and reliable shipments of grain that meet contract specifications for quality, safety and quantity. Quality is Canada's competitive edge in the world market. Quality and quantity assurance services include

- Inspecting grain to certify quality, including all grain received at and shipped from terminals, all grain exported from transfer elevators, and submitted samples of grain from producers and the grain trade
- Certifying weights for grain exports, supervising weighing at terminals, conducting audits of terminal and transfer elevator stocks and inspecting terminal and transfer elevator scales
- Identifying and explaining the relationships between the physical and biochemical properties of grain and the end-use value of grain
- Developing fast, accurate, economical, and meaningful methods for evaluating grain quality
- Supporting the sale and market development of grains and oilseeds by giving technical advice on grain and oilseed quality and end uses, and by evaluating the quality of plant breeders' cultivars to ensure that they have the physical and quality criteria needed for registration
- Screening, monitoring and certifying grain shipments to ensure that Canadian grain is not only safe but meets strict international tolerances for toxic contaminants
- Providing information to marketers and processors of Canadian grain on the quality of commercial grain shipments and of each harvest
- Investigating and resolving complaints and inquiries related to the quality and quantity of Canadian grain
- Providing other specialized services requested by the grain industry

The CGC also regulates the grain industry to ensure the fair treatment of producers and the integrity of grain transactions and to maintain grain quality as grain is moved through marketing channels. Regulation includes

- Licensing eligible grain dealers and elevator companies
- Conducting audits of licensees' liabilities to producers
- Monitoring the financial position of licensees and obtaining security to protect producers in case of a default by a licensee
- Developing and setting grain quality standards
- Inspecting grains and grain handling facilities to ensure freedom from insect infestations
- Collecting and publishing statistics on grain handling, storage, and movement
- Administering producer cars
- Mediating producer complaints concerning grain transactions

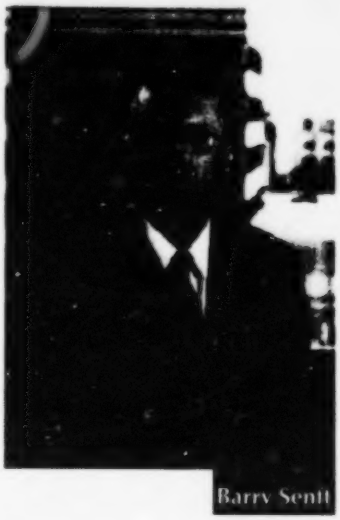
We provide other services of value to the grain industry in Canada and abroad, such as

- Operating the Grain Inventory Accounting System and facilitating information flow on behalf of the grain trade
- Providing grain quality data
- Offering general and custom-designed grain industry training courses
- Conducting contract work, for example, repairing moisture meters and doing chemical analyses of grain

We provide services to CGC staff, such as

- Administration
- Communications
- Finance
- Information technology
- Policy development
- Library
- Health and safety

Message from the Chief Commissioner


Barry Senft

Consistency, reliability, uniformity, safety. That's the assurance the CGC gives to every shipment and carlot of Canadian grain for export. It's backed by our standards of quality, our technical and scientific expertise, fairness to all participants in the grain industry, and a commitment to service.

On March 2, 2000, Lyle Vanclief, Minister of Agriculture and Agri-Food Canada, announced a plan to support the CGC's operations over the next four years with $83 million in government funding. The finance package included $20 million to offset the CGC's accumulated operating deficit, and an increase in the CGC's annual federal appropriation from $6 million to $20 million. This appropriation will rise to $23 million by 2003. At the end of this period, the CGC will be required to bring forward a long-term strategy to address funding issues.

The plan addressed a major concern: the possibility of raising fees to maintain our services and the impact of such an increase on producers and the industry, or the alternative—significant cuts to CGC services. Fees for services mandated by the Canada Grain Act, which bring in most of our revenue, are remaining at their current levels. Historically, fees have accounted for about 90 percent of our revenues. Now, 65 percent of our revenues is covered by fees while 35 percent is covered by government appropriations.

I would like to express my appreciation to the Government and to our Minister for this major commitment of funds. It is a significant show of support for the CGC in the services we offer to the grain industry. The funding plan puts us in a position to provide programs and services without additional costs for mandatory services.

However, it is critical that we look beyond March 2003. Grain volumes in Eastern Canada continue to fluctuate, while the demand for quality assurance services continues to increase on the Prairies. The funding plan will not by itself solve the issues behind the CGC's deficit.

In November 1999, Auditor General Denis Desautels called for improvements in our management of service fees. In his report on the CGC, the Auditor General said we need to improve how we cost services, assess the impact of fees, report plans for user charges, establish formal appeal processes, and integrate user charges into strategic planning.

CGC fees on mandatory inspection and weighing services are frozen until March 31, 2003. This gives us an opportunity to plan for the future and to devise a long-term recovery strategy. As mentioned earlier, by March 2003, we will have developed a long-term business plan, evaluated the application of fees, and recommended ways to restructure the CGC's revenues.

We are now consulting with clients on various proposals and putting plans into action. Here are some of the activities the CGC is working on in 2000–01.

Meet the changing needs of grain markets

The quality assurance system faces many challenges: pressures to move away from visual methods of grain grading, the development of genetically modified grains, a demand for services on the Prairies and for special crops research, and increased concerns about food safety. In 2000–2001, we are stepping up our efforts to address these issues.

Develop automated quality testing methods

A cornerstone of Canada's quality assurance system is the visual method of assessing the end-use quality of grains, oilseeds and pulses. Our visual grading system segregates different classes of grains, oilseeds and pulses by grade. This allows for low-cost, efficient movement of grain through the handling system.

However, the system is not adapted to deal with non visually distinguishable varieties and genetically modified grains and oilseeds. The visual grading system

- Restricts the development of new wheat varieties that don't conform to required kernel characteristics for wheat classes
- Restricts the development of new wheat varieties with end-use qualities outside of existing classes
- Can't identify non-registered wheat varieties that look like existing wheat classes but don't have the same quality characteristics
- Can't identify genetically modified grains

In early April, the federal government announced a commitment of up to $3.27 million in research funds from the Western Grain Transportation Adjustment Fund to support the development of rapid grain quality testing techniques. Research funded by this program is dedicated to investigating techniques for varietal identification, identifying genetically modified grains, and for predicting the composition and end-use characteristics of grains. Projects will require industry partners to match the federal funding. In this respect, the CWB is contributing $1.5 million to this initiative.

In December 1998, we issued a discussion paper on identity preservation systems in the grain handling industry. From that we will issue a guideline document which will outline essential components of an IP system. We have developed a monitoring program for indistinguishable varieties and are in the process of implementing it. Work is also continuing on the design of an affidavit system.

Currently, the CGC is providing testing services for Round-up Ready soybeans in eastern Canada. We also are putting additional resources into the development of rapid testing for the identification of varieties. Such technologies will also be applicable to the identification of GM grains where the industry feels it is needed. When these reliable tests become available the CGC will offer these as part of its testing services. Along with technical initiatives, guidelines for identity preservation systems will facilitate segregation of parcels of grain that are visually indistinguishable from one another.

Meet demand for new and increased service

The CGC has nine service centres on the Prairies. They provide a range of inspection, certification and weighing services on site at high throughput and primary elevators. Inspection and analytical services are also available to producers. The CGC will continue to develop the CGC's network of Prairie service centres. We will provide more staff to the service centres so that we can meet the demand for inspection and weighing services at high throughput elevators and at the farm gate.

We have exciting plans for pulse research over the next year. In February 2000, we hired a research scientist to head our new pulse research program. In August, work to develop international standards for pulse crops began in earnest with a meeting in Winnipeg of pulse quality researchers from the world's leading pulse exporting countries. Delegates from organizations representing growers and marketers in Australia, the United States, Canada, and Europe began the first steps in developing methods for identifying and testing the quality of peas, beans, lentils, chickpeas and other pulse crops. The committee identified 15 projects which would lead to better, internationally accepted methods for assessing such quality parameters as colour, size and shape, dehulling efficiency and cooking and canning quality. CGC research on methods for measuring quality will contribute to this work and, eventually, to the marketing of Canadian pulse crops internationally.

Adapt quality assurance programs to what buyers need

We continue to do research to make grading factors more objective and to match them to what the end user needs. We initiated a study on frost damage to incorporate objective measurements into wheat grading. With the support of the Western Standards Committee, we are working on defining degrees of frost severity which would be used in setting objective tolerances for frost damage.

Support fair and open grain transactions

The CGC's impartial position in grain inspection, weighing, and arbitration ensures that transactions involving producers, buyers and sellers are fair and open. We review regulations so that they are enforceable and support the quality assurance system.

We plan to monitor a new protein arbitration service which took effect August 1, 2000. Western producers now have the right to binding arbitration from the CGC on protein content when they deliver wheat of the following classes to a primary elevator. The service is available at any of our nine prairie service centres and applies to Canada Western Red Spring, Canada Western Extra Strong, Canada Western Amber Durum, and Canada Western Red Winter wheat.

We recently implemented a new policy regarding grain stored on the ground at primary elevators in western Canada. Primary elevator operators can now store non Canadian Wheat Board grain on the ground, provided they ask the CGC for an exemption from the Canada Grain Regulations which stipulate that companies must store all grain in an elevator building. The new policy is the result of consultation with grain producer and industry organizations. The review was prompted by a dramatic increase in the practice of storing grain on the ground at primary elevators last year. Traditionally, this form of storage has been prohibited or strictly regulated as a means of maintaining grain quality. However, for many stakeholders, the policy was not achieving its objective.

Producer issues

In response to requests from producers, the CGC is reviewing shrinkage allowances at primary elevators. Canada Grain Act regulations govern the maximum weight that primary elevator operators may deduct from producers' grain deliveries. The weight deductions, commonly known as "shrinkage allowances," compensate elevators for the normal loss in weight that occurs during grain handling.

Because of improvements in grain handling technology and changes in grain handling at the primary elevator, it is important to decide if shrinkage allowances are still needed, and if so, if they are set at the right levels. We will announce decisions on proposed changes next March.

We will examine the makeup and structure of the Eastern and Western standards committees. During the CGC's review of programs and services and recent information meetings, the question of producer representation and how the committees function was raised. This winter, we will present options on this issue.

Improve communications with producers

In February and March 2000, we hosted seven information meetings with producers in Manitoba, Saskatchewan and Alberta. I attended the sessions in Saskatchewan and was pleased to see the turnout. The discussions covered a range of issues. If you were not able to attend the session, a summary is available on the web site.

Support the Canadian Malting Barley Technical Centre

The Canadian Malting Barley Technical Centre, an initiative involving government, grain companies and plant breeders, will begin operating in 2000–01 in Winnipeg. The centre will feature a pilot malt plant and brew plant for testing new barley varieties and providing demonstrations to marketers, processors and customers. The CGC has been heavily involved in the implementation of the centre, and we will continue this involvement through membership on the board of directors. Funds for the centre will be provided by the CWB, the Manitoba and Saskatchewan Rural Adaptation Councils, and the Province of Manitoba through federal-provincial funding.

New assistant commissioners

The CGC has two new assistant commissioners for Manitoba and Quebec. Henri Tousignant was named assistant commissioner for Quebec on March 6, 2000. He has many years experience in the private and public sectors. Mr. Tousignant has served as member of Parliament and municipal councillor, and has been active in professional and community organizations. Bob Douglas was named assistant commissioner for Manitoba on July 3, 2000. He has extensive experience in several agricultural organizations in the province, including Keystone Agricultural Producers, the Manitoba Farm Bureau, and the Manitoba Federation of Agriculture.

Closing

In 1999, Canada's exports of grains, oilseeds and special crops had a value of $11 billion in the export market.

At the time of release of this report, the CGC's annual harvest survey is in full swing. The survey involves many CGC people and resources and has one goal in mind: to get the latest, most accurate and objective crop quality information as quickly as possible to buyers, sellers and processors around the world. The response of customers of Canadian grain is proof of the value of our quality assurance programs. I am confident that we will continue to maintain this focus.

The challenges the CGC faces compel us to respond with a commitment to innovation and service. With my fellow commissioners, Douglas Stow and Albert Schatzke, I would like to express my appreciation for the achievements of CGC staff, directors, and assistant commissioners. I look forward to serving producers, the industry and our international clients in the upcoming year.

Message from the Chief Operating Officer

April 1, 1999 to March 31, 2000

In 1999–2000, we reached new clients, increased our communications with others, began a new research program, and made significant achievements in grain research and grading technology.

The CGC's funding issues were addressed with an $83-million financial package. In early April 2000, we received $3.27 million in federal funds for research in automated quality testing. As Barry Senft explains in more detail in his message, the financial support positions the CGC for challenges ahead.

However, that is a look to the future There were many other achievements in 1999–2000, described in the pages that follow. I am pleased to highlight them for you.

Dennis Kennedy

Customer services and communication improve and expand

During peak shipping periods, the CGC met the heavy demand for inspection and weighing services for both rail car unloads and vessel shipments of grain at ports. Overseas customers continue to express satisfaction with the consistency and uniformity of Canada's grain quality. We responded quickly to resolve any informal and formal inquiries about the quality of specific cargoes.

We introduced a reported weight certification service at port locations.

In the Eastern Region, we improved increased service to the Canadian Wheat Board (CWB). Inward inspection services of grain received directly from western primary elevators are now available at the two transfer elevators in Montreal and Trois Rivières. The services used to be available only at the transfer elevator in Quebec City. The CWB now has more options regarding winter rail deliveries.

We began providing service to Mission Terminal Inc. in Thunder Bay.

Grading issues and grade changes, accuracy and consistency in protein testing, producer cars, *Fusarium* head blight, quality assurance and genetically modified grains, and licensing and producer rights were frequent questions raised by producers at farm shows, during tours of the CGC, and through our information line. Thanks to the work of CGC staff, directors and assistant commissioners, we responded to these issues, put our clients in touch with the right people, and learned what was on the minds of producers.

In its third year of operation, the CGC information line responded to 998 calls. The service is a major source of information for producers. The three most common topics? Producer car procedures, basic grading specifications, and who's licensed and who's not.

Comments from producers who visited the CGC display at farm shows or talked to the assistant commissioners brought the issue of fairness in protein testing to our attention. At the time of the release of this annual report, we have introduced a protein arbitration service to settle disagreements on protein content.

We are expanding the use of the Internet to exchange and sell information and make more CGC services available through our web site.

AGRICORP, a crown corporation in Ontario that provides official sampling services for us across the province's agricultural regions, provided samples for the 1999 and 2000 wheat harvest surveys. In each survey, the corporation obtained 400 wheat samples from all counties across the province. It also has provided official sampling services on approximately 60 shipments. Through our partnership with AGRICORP, the CGC is working with new clients in Ontario. Official sampling services are now available, at low cost, to clients in agricultural areas previously not served by the Bayport Region's office. With access to official sampling, inspection, and certification services, more producers and companies can provide assurances of quality to international customers.

Quality assurance programs support sales of Canadian grain

Port operations in the Pacific, Thunder Bay and Eastern regions continued to be delivered in a timely and effective manner. CGC staff inspected and weighed approximately 28,000,000 tonnes of grain loaded to vessels. Approximately 290,000 rail cars unloaded at terminal or transfer elevators or shipped direct to the United States and Mexico were inspected, weighed or both.

The Prairie Region provided excellent service to the CWB and its clients through our on-site grading service. Service centre staff inspected and certified 20,564 carlots shipped to the United States in the 1999–2000 crop year. Before the service began in the 1995–96 crop year, the Board received quality complaints on approximately 50 percent of its shipments to the United States. Since the inception of this service, the complaint ratio has remained below 1 percent. We have also responded to recent changes in the CWB's shipping program to the United States. Under a new arrangement, we will grade separate lots of grain which is then blended before shipment. The arrangement, negotiated between the CWB and its clients, eliminates the need for blending and extra handling at US facilities.

We responded to over 400 inquiries from marketers, processors and importers on a variety of grain safety issues. The GRL's grain safety group addressed concerns about the acceptability of grain safety specifications in tenders and contracts and the level of toxic substances in Canadian grain, plus questions about requirements for grain safety documentation in export shipments. The GRL carried out grain safety certification analyses on a total of 175 shipments.

As a service to the Canadian Soybean Export Association, the Bayport Region started testing and certifying for the presence or absence of Roundup Ready soybeans in soybean shipments for food use.

We continued to prepare for International Standards Organization certification. Preparation began in 1997 with a team of nine and has involved describing all major procedures followed by Industry Services staff. While the project is still underway, the intensive examination of procedures has already led to better, more uniform and consistent delivery of services to the industry. I anticipate that we will receive ISO accreditation in 2000–01.

New grades introduced

We established a grade of feed peas and grades for Desi and Kabuli chick peas, addressed customer concerns about *Fusarium* and midge damage in the two major wheat classes used for bread making, and overhauled the method for measuring ergot, sclerotinia and stones in Canada Eastern and Western wheat classes.

Pulse quality research begins

The GRL now has the expertise to provide quality research for the pulse crop industry in Canada. The laboratory hired a research scientist to develop internationally recognized methods for evaluating pulse quality. Pulse production has increased significantly in western Canada over the past several years. Collaboration with countries such as the United States and Australia will strengthen the pulse industry worldwide.

The push continues for fast, objective, and reliable technology to evaluate quality of shipments and identify varieties. In the varietal identification unit, researchers used electrophoresis to determine the fingerprints for several new American varieties of hard red spring wheat and extra strong durum wheat. The plant molecular biology lab completed a large part of a database of DNA fingerprints for registered barley varieties, based on the analyses of microsatellites, the short sequences of repeated nucleotides in genetic material. In research with the University of Manitoba, the bread wheat studies and baking lab found that a technology called matrix assisted laser desorption/ionization time-of-flight mass spectrometry could be used to identify wheat varieties.

The CGC also worked on tools to support grain inspection. We carried out lab tests on an automated system that GRL specialists in image analysis and microscopy are developing, in cooperation with grain inspectors, to identify vitreous and non-vitreous kernels in durum wheat. With the Saskatchewan Pulse Growers and Pulse Canada, we developed computerized image analysis technology for analyzing colour characteristics of lentils. We are searching for commercial partners.

Market support activities build relationships with buyers, sellers, and processors

Each year, we exchange information with customers about the quality of the current crop and the quality attributes of certain varieties. It's fact finding on both sides. Quality-discerning customers learn more about the advantages of using Canadian grain, and we learn about their needs. Tours, presentations in programs of the Canadian International Grains Institute, collaborative market studies with processors, the web site, and phone calls to clients build this relationship. The highlights that follow describe much of this work. This year, I would like to make special mention of two achievements: technical missions to customer countries and the GRL's work on extra strong durum wheat and hard white wheat varieties. Both areas of activity will contribute to the competitiveness and versatility of Canadian wheat in international markets.

Organizational changes made

To ensure that the organization uses its resources effectively, we carried out an internal review and made organizational changes. This included the centralization of statistical services in one unit, the elimination of one statistical publication, staffing reductions and reorganization of staff. We relocated some inspectors to Edmonton and Weyburn, trained service centre staff in official weighing services, and cross-trained two more staff in Prince Rupert in inspection and weighing.

Appointments

Bill Scowcroft, PhD, joined the CGC as director of the GRL in June 1999. From Horsham, Australia, Bill is a scientist, educator, manager and business man and has held a variety of executive positions in both public and private sector research and development in several countries, including Canada.

Bill's research has focused on oilseed crops, plant genetics and molecular biology. His management and business experience includes developing and implementing agricultural research policies and strategies and integrating plant biotechnology and crop improvement. He has considerable experience in sustainable food security and in conservation of genetic resources. His Canadian experience includes vice president of Research and Development for Biotechnica Canada, where he managed commercial agricultural biotechnology.

Employee relations

In May 2000, the CGC conducted an employee census to gather information on the composition of the entire CGC workforce. The response rate was 84.5 percent of CGC employees.

The CGC is committed to having a workforce that reflects the diversity of the Canadian population and to fostering a work environment where all employees are treated equitably and with respect. The census data will help us plan and implement the CGC's diversity and employment equity activities.

CGC employees participated in the Public Service Employee Survey in May 1999. At the release of the survey results in November 1999, we analyzed the data and discussed the results with employees. The survey obtained the views of Public Service employees on their workplaces and how those workplaces can better support employees' well-being, diversity, career aspirations, learning and development.

We improved our safety program by implementing policies for rail yard and car shed safety. Numerous other projects of safety committee and the National Safety Network improved health and safety at the CGC.

Closing

The annual report for 1999–2000 explains our achievements in quality and quantity assurance services, in communications with clients, grain standards and research, and market support. On behalf of the directors, I would like to thank all CGC employees for their service to the organization.

The CGC has much work to do over the next year. There are opportunities to improve and expand our services and respond to technological and market changes. Canada's reputation for grain quality is built on the quality assurance system. We will maintain the integrity of this system in 2000–01.

Highlights, April 1, 1999 to March 31, 2000

Finance and grain volumes

The CGC's annual budget comes partly from fees for services and partly from Parliament.

- The CGC will receive $83 million over the next four years in new funding from Ottawa to cover CGC debt to the end of 1999–2000 and allow the CGC to freeze mandatory service fees at current levels until 2003–04.
- The total number of grain shipments inspected by the Prairie Region and shipped to the United States was 25,783 cars in 1999–2000, an increase of 6,189 cars from the previous year.
- The total number of grain shipments inspected by the Prairie Region and shipped to terminals was 35,107 cars, an increase of 9,456 cars from the previous year.
- By Order-in-Council in January 1999, the CGC became a separate government department financially. This change came into effect operationally April 1, 1999. All public reports, such as the CGC's Report on Plans and Priorities, are submitted separately to Parliament and shown separately from Agriculture and Agri-Food Canada's (AAFC) reports. The CGC is still part of the AAFC portfolio, and the Chief Commissioner still reports to the Minister of AAFC.

Services in grain quality and quantity assurance

The CGC's programs and services to producers, the industry and international customers result in consistent, reliable shipments of grain that meet contract specifications for quality, safety and quantity.

- The CGC and AGRICORP, a crown corporation in Ontario, joined forces to provide Ontario farmers and grain companies with official CGC grain sampling services. The agreement makes CGC services accessible to clients across Ontario.
- We adopted a position statement on genetically modified grains. We will evaluate the end-use quality of genetically modified grains, develop and use methods to identify and test for them, provide quality assurance services through our monitoring programs, and provide certification as needed, within the limits of the technology.

- The Canadian Wheat Board (CWB) now has more options regarding winter rail deliveries at St. Lawrence ports, thanks to improvements to services made in the Eastern Region. The region now inspects and weighs rail cars shipped from western primary elevators and received directly at three transfer elevators. Inward inspection services, previously only available at the transfer elevator in Quebec City, are now available in Montreal and Trois Rivières. From August 1, 1999 to March 31, 2000, the CGC handled 8,944 rail cars at the three locations.
- In response to industry requests, we introduced a reported weight certification service at port locations.
- We began providing service to Mission Terminal Inc. in Thunder Bay.
- We increased the number of staff in Prairie service centres to respond to increased demand for service.
- We began testing and certifying for the presence or absence of Roundup Ready soybean varieties in soybean samples for food use. We implemented an ELISA (Enzyme-Linked Immunosorbent Assay) test procedure for Roundup Ready soybeans and developed a genetically modified organism (GMO) testing service package. The package is custom-designed for delivering Canadian soybeans into the European market.
- The GRL added zearalenone and ochratoxin to its list of substances whose presence is tested for in Canadian grain by ELISA testing. ELISA testing provides for more economical analytical tests and faster turnaround times than conventional instrumental methods.
- Five new pesticides were added to the list of pesticides tested under the Japanese pesticide residue cargo certification program for wheat and barley. As of January 1, 2000, the CGC tests for 83 substances in this program.
- In addition to playing an important role in organizing the Canadian Workshop on Fusarium Head Blight that was held in Winnipeg in November 1999, the GRL also conducted training in identifying *Fusarium* species and using ELISA technologies for measuring vomitoxin in grains.

Communicating with clients

Many producers who visit the CGC's head office in Winnipeg say they gain a better understanding of the grading system, grain standards, grain research and technology, and producer rights and responsibilities under the Canada Grain Act. The CGC's web site, exhibition and tour programs, and the 1-800 line are important ways for keeping clients up-to-date, for discussion and debate to take place, and for the CGC to find out about the concerns of our clients.

- Approximately 200 prairie producers attended CGC information sessions in February and March in Alberta, Saskatchewan and Manitoba. Presentations and discussions covered issues such as grain standards, a proposed move to a single standard, grading issues in 1999, and genetically modified grains.
- In 1999–2000, 998 producers and industry clients used the CGC's 1-800 information line. In 1998–99, we received 730 calls.
- In September 1999, we advised producers, through the media and our web site, of new methods for assessing ergot content and informed the Western Grain Elevator Association of the potential for grading errors if the new methods were not applied. The WGEA agreed to advise member companies of the issue. We also made producers aware of their right to binding arbitration in case of disagreements over grades received at the primary elevator.
- As part of our market support work, we hosted international and domestic visitors at our head office in Winnipeg and at our regional offices.
    - In Winnipeg, we received 239 visitors participating in 40 international tour groups from 21 countries.
    - In the Pacific Region, 200 people visited the region's central office.
    - In the Bayport Region, 90 people, mainly from European and Pacific Rim countries visited the CGC.
- Approximately 455 other people including 250 producers visited our head office this year, touring the CGC's laboratories and attending presentations on grading, grade standards, and producers' rights.
- The 1999–2000 Official Grain Grading Guide, a complete reference on the grading of grains, oilseeds and pulses, was posted on the CGC's web site for downloading and printing free of charge.

Regulatory changes

We review and change regulations and policies to serve producers and the grain industry.

- The Grain Futures Act was repealed on February 1, 2000. This had the effect of transferring regulatory responsibility for the Winnipeg Commodity Exchange to the Manitoba Securities Commission.

Grain grades and standards

The CGC establishes, reviews and updates quality standards. Two grain standards committees, one in eastern Canada and one in western Canada, meet regularly to make recommendations about changes to grade specifications. Changes to grade specifications are backed by statistical studies and laboratory research.

- To address concerns about the effects of *Fusarium* and midge damage on the bread making quality of Canada Western Red Spring (CWRS) and Canada Western Extra Strong (CWES) wheat, we tightened tolerances for these grading factors. Research showed that at the former tolerances, *Fusarium* and midge damage weaken dough properties, impairing the breadmaking quality of the wheat. Tolerances for *Fusarium* damage were tightened in No. 2 CWRS and Nos. 1 and 2 CWES and added to grade tables for rye. Midge damage tolerances were tightened in Nos. 2 and 3 CWRS and in Nos. 1and 2 CWES.
- We initiated a study on frost damage in wheat. The study will continue in 2000–01 with a goal of making wheat grading more objective.
- We established a grade of feed peas and grades for chick peas. The grades better reflect the quality of Canadian feed pea production and meet customer requirements.
- We made the method for measuring ergot, sclerotinia and stones in Canada Eastern wheat classes more precise, matching them to tolerances set for western wheat classes.
- Moisture testing procedures were updated, and a revised conversion table for Canada Western Red Spring wheat came into effect August 1, 1999.

- Moisture calibration tables were revised for the 2000–01 crop year. They included the corn test weight adjustment table, a moisture conversion tables for barley, and moisture conversion tables for corn with low and high moisture levels. New moisture conversion tables for Canada Eastern Red Spring, Canada Eastern Hard Red Winter and Eastern Soft Red Winter wheat were also produced at the request of Eastern red wheat growers, processors and marketers.

Research activities

Grain quality research ensures that the processing quality of grain is maintained from cargo to cargo and from year to year. GRL scientists perform research to contribute to a scientific understanding of what constitutes quality in grain.

- In cooperation with the Canadian Food Inspection Agency, the plant molecular biology lab continued its research in developing new methods and validating existing ones for detecting GMOs in soybeans and canola. Evaluations include both basic GMO screening methods and quantitative analyses of cargo samples. The lab is studying both DNA and protein-based detection methods.
- With Agriculture and Agri-Food Canada's Cereal Research Centre in Winnipeg, CGC researchers used scanning electron microscopy and light microscopy to document the effect of diatomaceous earth on the external structures of the rusty grain beetle. Research on this treatment could lead to a potential control mechanism against the rusty grain beetle, a pest that damages stored grain.
- Fluorescence microscopy was used to document the differences in malt modification in malting barley and hulless barley breeder lines. Malt modification is the loss of cell wall material, i.e., beta-glucan, in malt. Differences in malt modification between malting and hulless barley may show an advantage in using hulless barley.
- The GRL's applied barley unit continued its involvement in the North American Barley Genome Mapping Project, conducting malting and quality analysis of almost 150 samples.
- The University of Saskatchewan, the All Japanese Barley Processors Association and the GRL completed a collaborative research project on the potential of Canadian barley cultivars and germplasm for meeting stringent quality demands of the Japanese food barley industry. Methods for predicting quality were also investigated.

- Preliminary research results showed that a reduction in malting barley quality during storage is a result of low levels of sprouting either before or after harvesting. Some export shipments of Canadian malting barley have lost viability when stored under hot, humid conditions in countries such as China and Columbia. This loss of malting quality has resulted in a loss of potential sales.
- The GRL, in collaboration with Pulse Canada and Pulse Australia, began to develop recognized methods for determining pulse quality.
- The GRL's oilseeds and pulses unit established that modifying fatty acid composition in canola seed can result in errors in determining fatty acid content. Determining fatty acid content is important in the development of new canola varieties with low linolenic, high oleic, high erucic, or high lauric acid. Therefore, to accurately determine oil content using near-infrared reflectance (NIR) or nuclear magnetic resonance, instruments must be calibrated with the appropriate seed type.
- The oilseeds and pulses unit showed that differences in sample preparation cause significant differences in determining fatty acid composition in a range of canola and rapeseed types. Methods which extract only a portion of the oil, such as those often used in plant breeding programs, give lower results for saturated fatty acids and for long chain fatty acids such as erucic acid.
- The oilseeds and pulses unit studied variations in the nutritional components of flaxseed. This research will contribute to the establishment of guidelines for labelling baking and pet food products containing flaxseed. The unit found that
    - Oil content in flax samples of the same variety is altered by environmental stress and is therefore a useful tool in determining environmental stress.
    - The composition of minerals, tocopherols, carotenoids, cyanogenic glycosides and amino acids varies widely between varieties and within a variety when samples of that variety are exposed to different environmental conditions.

- The grain safety group added oilseeds to its study of trace elements in grain. The study involves proficiency testing and trace element characterization research. It began in 1993 and involves laboratories in Canada, the United States and Sweden. For heavy metal determinations, proficiency testing plays a vital role in evaluating the performance of analytical methods and ensuring the accuracy and precision of test results. Trace element characterization provides researchers with data on the elemental composition of grains.
- New, more reliable and efficient analytical methods based on the use of specific ion electrodes were developed to detect compounds such as bromides and cyanides which occur naturally in the grain of some plants. The analysis enables the CGC to analyse levels of cyanides which result from the breakdown of naturally occurring cyanogenic glycosides. Analyses for these compounds are provided on request through certification services for some buyers of Canadian grain.
- We began developing an online searchable database of the CGC's grain biology slide collection. The database will go live on the CGC's web site in 2000–01.
- We added four new employees to the GRL:
  - In the plant molecular biology laboratory, a new research scientist will develop DNA-based markers for identifying barley varieties and certain wheat varieties, and a new technician will develop DNA-based detection methods for genetically modified crops.
  - A new scientist was hired to head up pulse research. He has begun studying the variability of composition in Canadian pulses and is working to establish methods for measuring pulse cooking quality.
  - A new scientist was hired to work in the oilseeds and pulses unit. Her research will include determining the effect of modification of fatty acid composition on minor constituents and the oxidative stability of Canadian oilseeds. She will also research problems in the analysis of flax and canola.

Developing methods for automated quality testing

The CGC is using its expertise to develop fast, objective, reliable methods for assessing quality characteristics, identifying grain varieties, and for complementing the visual grading system.

- The GRL is developing advanced DNA-based techniques to distinguish wheat and barley varieties in some grain classes that aren't visually distinguishable from each other and to meet industry requirements for variety-specific shipments. This will complement existing capability based on protein analysis. A large portion of a comprehensive database of DNA fingerprints for registered barley varieties based on microsatellite analysis is complete. The plant molecular biology lab is starting to evaluate the potential of using sequence specific amplicons fingerprints in cargo certification. This work is part of a broad-based, collaborative program with AAFC and other institutions.
- The GRL continued working on developing rapid methods for detecting indistinguishable varieties of hard red spring wheat and extra strong durum wheat. Using acidic polyacrylamide gel electrophoresis, the varietal identification unit determined gliadin protein fingerprints for several new American hard red spring wheat varieties and for two extra strong durum wheat varieties, AC Navigator and AC Pathfinder. The fingerprints are distinct from those for registered Canadian varieties of hard red spring wheat and other registered Canadian varieties of durum wheat. Work is continuing on the development of a rapid high-performance liquid chromatographic method for detecting indistinguishable varieties in these classes. Rapid tests for detecting indistinguishable varieties will ensure the integrity of shipments.
- In partnership with the Saskatchewan Pulse Growers and Pulse Canada, CGC researchers and grain inspectors developed computerized image analysis technology which enables grain inspectors to analyze the colour characteristics of lentils more quickly and consistently. The second phase of the project is focussed on refining and commercializing the technology with a private sector partner.
- CGC researchers devised a rapid, inexpensive method for image analysis of oriental noodles. The technology will be used to assess the visual characteristics of oriental noodles objectively. It will be marketed internationally to noodle manufacturers for on-site use and will help the CGC respond quickly to quality control concerns of customers.

- A system for the automated identification of vitreous and non-vitreous kernels in durum wheat underwent rigorous lab testing, predicting scores for hard vitreous kernels typically within three percent of those assigned by CGC inspectors. The CGC will transfer the system to a platform for on-site testing at the ports.
- The GRL collaborated with WheatRite, Australia to evaluate the company's polyclonal antibody kit for a rapid, on-site estimation of wheat falling number.
- NIR is an increasingly important technology for rapid quality assessment in grains. GRL research on the application of NIR technology included
  - Evaluation of Textron Grain Quality Monitoring for prediction of protein and moisture content in wheat. The Textron GQM is now in commercial production.
  - Development of standard methods to interpret NIR analysis that enables prediction of composition and functionality for several different Canadian grains
  - Improving the precision of wet gluten and gluten index analysis in Canadian wheat classes
  - Verifying the influence of growing environment on kernel colour in Canadian hard white spring wheat
  - Prediction of oil content in sunflower seed

Evaluating new varieties for registration

The CGC is instrumental in ensuring that new varieties of common wheat, durum wheat, barley, and oilseeds exhibit the quality characteristics desired by international markets. Advanced breeder lines are tested extensively in the GRL for their quality characteristics. Common and durum wheat lines are evaluated for their kernel characteristics by CGC inspection specialists.

- The following wheat lines, supported by the Prairie Regional Recommending Committee for Grain (PRRCG) for full or interim registration in February 2000, were tested by the CGC:
  - BW 245 and BW 252, higher yielding red spring lines (full registration)
  - BW 263 and BW 264, hard white spring lines (interim experimental registration for market testing)

  - HY 446, a Canada Prairie Spring Red-type line (interim experimental registration for market testing)
  - HY 639 and HY 961, Canada Prairie Spring Red-type lines (full registration)
  - SWS 234 and SWS 241, soft white spring lines supported (full registration)
- The GRL tested 145 advanced wheat lines representing seven wheat classes. Inspection specialists evaluated 186 lines for kernel characteristics.
- The CGC evaluated the quality of the three feed, one malt, one special hulless, and three forage lines of barley which were supported for full registration by the Western Canadian Barley Cooperative in February 2000.
- The CGC belongs to the Western Canada Canola/Rapeseed Recommending Committee (WCC/RRC) which recommended lines for registration in February 2000. The GRL performs analytical testing of canola lines developed in the public cooperative test run by the WCC/RRC. Private quality data for canola and rapeseed is provided by laboratories certified by the GRL. The CGC participates in the PRRCG oilseeds subcommittee which recommends lines of flax and sunflower for Western Canada.

Information technology

Our overhaul of hardware and software resulted in a smooth transition into the Year 2000. Preparation for the Year 2000 was one of several projects which focused on automating services and disseminating information electronically to clients.

- The CGC's registration system used in the Eastern Region is now electronic. The upgraded system is connected to transfer elevators.
- The CGC is designing a computer application which will automate the reinspection process.
- The CGC installed a computer system in Thunder Bay to facilitate grain inspection during vessel loading. The software replaces an existing system. Further implementation will take place in other regions in 2000–01.
- The CGC revamped an online terminal inventory system for Canada Ports Clearance Association.

Technical market support work

The CGC gathers information on the quality requirements of end users, conveys that information to plant breeders, and then, through collaborative market studies, technical missions, presentations and conferences, describes new varieties and their quality characteristics to end users. The harvest survey and resulting quality data posted on the web site during the fall gives customers an early indication of crop quality.

- The CGC added field peas and lentils to the 1999 harvest survey—the most comprehensive, systematic assessment of grain quality worldwide. Six classes of wheat, durum wheat, canola, and flaxseed were also surveyed, and the resulting quality data was posted on the CGC web site.
- The CGC was involved in the following technical missions:
  - To promote extra strong durum wheat varieties—in Italy, Brazil, Chile, Peru and Venezuela
  - To inform millers about the Canadian wheat grading and handling system and the intrinsic quality and processing characteristics of Canadian wheat classes, and to learn about the quality requirements of milling and baking industries—in Turkey (with the CWB and the Canadian International Grains Institute [CIGI])
  - To discuss the quality of the harvest with millers, importers and processors—in South Korea and Japan (with the CWB)
- The CGC participated in the following presentations and studies:
  - In collaboration with AAFC, the CIGI and the University of Manitoba, evaluated the potential of new hard white wheat varieties in Asian products and presented preliminary results to Asian customers
  - Collaborated with 11 companies worldwide in a market study to analyze and evaluate the quality of samples of extra strong and conventional varieties of Canada Western Amber Durum for pasta manufacturing
  - Participated with the CWB and CIGI in an evaluation of extra strong durum varieties in a Canadian pasta plant.
  - Gave a presentation on durum wheat quality to farmers at the CWB's Customer Connection meeting in Lethbridge, Alberta
  - As part of a CWB-CIGI-CGC team, gave a presentation on Canada's wheat quality assurance program at an international symposium on wheat utilization held in Algeria

- CGC staff gave technical presentations to participants in CIGI's programs. Sharing their expertise with grain industry clients from around the world and with Canadian producers, our staff were involved in 33 programs.

New business opportunities

The CGC tailors programs and services to meet the needs of individual clients.

- Development of the CGC's domestic business services continued with an emphasis on our laboratory testing services. In this fiscal year the CGC's Business Group carried out marketing activities in Canada and managed the commercialization of intellectual property of the CGC.
- The Business Group also managed international consulting projects in Russia, Uruguay and Vietnam, and a new project in China was approved towards the end of the fiscal year. All of these projects are funded by the Canadian International Development Agency.

Research technology development, April 1, 1999 to March 31, 2000

Wheat enzymes and Asian end products unit

- With J. Dexter, wheat milling unit, GRL, evaluated the impact of particle size and starch damage on white salted noodles. This research will help optimize the use of Canadian wheat by millers and their customers in Asian markets.

- With L. Malcolmson, B. X. Fu and P. Chen, Canadian International Grain Institute (Winnipeg, Canada) developed an optimum method for steam bread evaluation using response surface methodology. Testing included evaluation of unique dough properties, textural measurements and sensory evaluation. This new method will be used to assess plant breeders' lines of Canadian wheat developed for Asian markets.

- Established a small 50-gram scale noodle evaluation protocol. This new method is designed for evaluating breeder lines or grading factor impact at an early stage in plant breeding when the amount of material is extremely limited.

- Developed an inexpensive rapid enzyme assay using a 96-well microplate for determining peroxidase levels in wheat or flour. In large-scale screening studies, the new assay analyzes many samples quickly and inexpensively using small amounts of material. The assay will help the CGC work with plant breeders in reducing the enzyme peroxidase from wheat varieties being developed for Asian markets, making those varieties more desirable for Asian consumers.

Bread wheat studies and baking unit

- With W. Ens, Department of Physics and Astronomy, University of Manitoba (Winnipeg, Canada), researched wheat variety identification by matrix assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS). Studies showed that MALDI-TOF MS has potential as a rapid high throughput method for identifying wheat varieties. Distinct spectra were obtained for 16 Canadian wheat varieties representing four wheat classes.

- With Yamazaki Baking Company (Japan), studied the effects of wheat flour dough mixing on protein size distribution. Size exclusion high performance liquid chromatography and flow field-flow fractionation studies of water-flour dough mixed in a farinograph showed that there is a dramatic reduction in the size of the gluten in polymers during mixing. These results suggest that changes in protein size distribution are important in optimizing processing properties and end product quality.

Wheat milling unit

- With M. Izydorczyk, University of Manitoba and B. Rossnagel, University of Saskatchewan (Saskatoon, Canada), conducted research on roller milling of hulless barley. Optimum milling yield and flour refinement are achieved when barley is pearled 15 to 20 percent and when conditioning moisture is less than 14.5 percent. Shorts, a feed by-product of the milling process, are rich in beta-glucan and arabinoxylans and are potential functional food ingredients.

- With S. Mulvaney, Cornell University (Ithaca, United States) and D. Peressini, University of Udine (Italy), studied viscoelastic properties of wheat flour dough of different strengths. Linear viscoelastic analyses indicate that in durum wheat, dough strength is related to higher degrees of effective gluten protein cross-linking, while in common wheat, dough strength is related to higher polydispersity in the molecular weight of polypeptide chains participating in the cross-linking. These differences in dough properties are related to gluten protein composition and structure and determine the suitability of common wheat for bread and durum wheat for pasta.

- With B. Marchylo, durum wheat research unit, GRL, K. Preston, bread wheat studies and baking research, GRL, J. Clarke, Agriculture and Agri-Food Canada (AAFC) Research Centre (Swift Current, Canada) and M. Carcea, Instituto Nazionale della Nutrizione (Rome, Italy), compared the breadmaking quality of Italian and North American durum wheat varieties and Canada Western Red Spring (CWRS) and Canada Western Extra Strong (CWES) wheat. The stronger varieties of durum wheat exhibited long mixing requirements and inextensible, tenacious dough properties. In general, durum wheat baking quality improved as strength increased, but none of the durum wheat varieties matched the loaf volume of CWRS or CWES.

Durum wheat unit

- With the GRL's wheat milling unit and AAFC's research centres in Winnipeg and Swift Current, evaluated cooked pasta quality improvements achieved by blending a poor quality, weak gluten, low protein semolina with higher protein semolinas derived from conventional and extra strong gluten CWAD varieties. Increasing protein content in the blend improved cooking quality regardless of variety, but improvement in mixing and textural characteristics was greater in blends with extra strong gluten types than in blends with conventional semolinas.

- With the GRL's wheat milling and Asian end products units, studied the relationship between lipoxygenase activity levels on the colour of spaghetti dried at four temperatures. The increase in pasta yellow colour (b*) associated with increasing drying temperature was not related to lipoxygenase activity for the set of Canadian durum cultivars studied. The yellow color of pasta, processed from cultivars with very low lipoxygenase activity as used in this study, may be influenced by other grain constituents.

- Studied the interrelationships among gluten strength, drying temperature, cooked pasta texture and spaghetti color. Pasta processors cannot exclusively rely on quality characteristics such as protein content, gluten strength and yellow pigment content to predict processing quality because varieties perform differently with increased drying temperatures.

Barley and malt unit

- Identified two barley proteins with low molecular weight that inhibit limit dextrinase, a malt enzyme. Limit dextrinase is important in the conversion of starch to fermentable carbohydrates during brewing. The sequence, structure, characteristics and mode of action of the inhibitors provide new insights into ways of improving the fermentability of malt extracts.

- Studied the effect of barley starch characteristics on the formation of fermentable carbohydrates during mashing. The study showed a wide range of starch composition in barley varieties, ranging from zero to 45 percent amylose. The production of fermentable carbohydrates from these starches was measured in mashing studies. Normal barley starches with an amylose content of 25 percent yielded the highest composition of fermentable carbohydrates

Oilseeds unit

- In a study involving 22 laboratories from five different countries, compared the precision of near-infrared analysis for oil, protein, glucosinolates and chlorophyll with more conventional methods. NIR analysis for oil and protein determination was slightly less precise than conventional methods, but as precise for glucosinolate and chlorophyll determination. The study shows that NIR is a good method of analysis for these parameters. The precision data on NIR generated by the study will allow plant breeders and the trade to make greater use of this technology to analyze these components. NIR is faster and less expensive than conventional methods of analyzing for these components.

- In an analysis of protein content in field peas, found that protein content is dependent on variety and decreases slightly as the latitude of the growing area increases. Protein is a key quality factor in field peas, especially in feed, but may also be important in cooking and food use. The study was carried out partly in response to requests from grower organizations for a better understanding of how protein varies with variety and growing location.

Grain safety group

- In a collaborative study with the Geological Survey of Canada, showed a relationship between the year-to-year variations in cadmium content in amber durum wheat and pedological and geographical features on the Prairies. A model using regional soil and groundwater properties could be developed to predict cadmium levels that may result in durum wheat grown in any given location.

Corporate information 1999–2000

Executive

Chief Commissioner	Barry Senft
Assistant Chief Commissioner	Douglas Stow
Commissioner	Albert Schatzke
Chief Operating Officer	Dennis Kennedy
Director, Corporate Services	Régis Gosselin
Director, Grain Research Laboratory (GRL)	Bill Scowcroft
Director, Industry Services	Marilyn Kapitany

Assistant Commissioners

Alberta	Hartmann Nagel
Quebec	Henri Tousignant
Manitoba	vacant (filled by Robert Douglas effective July 3, 2000)
Saskatchewan	Donna Welke

Canadian Grain Commission Revolving Fund

Financial Statements
March 31, 2000

June 9, 2000

Auditors' Report

To the Chief Commissioner and Commissioners of the Canadian Grain Commission Revolving Fund

We have audited the balance sheet of the **Canadian Grain Commission Revolving Fund** as at March 31, 2000 and the statements of operations, accumulated surplus (deficit) and cash flows for the year then ended. These financial statements are the responsibility of the Revolving Fund's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Revolving Fund as at March 31, 2000 and the results of its operations and its cash flows for the year then ended in accordance with the accounting principles for Revolving Funds of the Government of Canada as described in Note 2.

Pricewaterhouse Coopers LLP

Chartered Accountants

Canadian Grain Commission Revolving Fund

Balance Sheet
As at March 31, 2000

The accompanying notes form an integral part of these financial statements

(in thousands of dollars)

	2000 $	1999 $
Assets		
Current		
Accounts receivable		
Government of Canada (note 4)	22 354	1 855
Outside parties	3 547	3 198
Prepaid expenses	72	40
Accountable advances to employees	16	10
	25 989	5 103
Capital assets - at cost (note 3)	10 856	9 578
Less: Accumulated amortization	7 734	6 941
	3 122	2 637
	29 111	7 740
Liabilities		
Current		
Accounts payable and accrued liabilities		
Government of Canada	16 141	7 751
Outside parties	1 133	407
Salaries payable	2 020	1 539
Vacation payable	1 300	1 145
Deferred revenue	353	629
	20 947	11 471
Long-term		
Allowance for employee termination benefits	2 308	1 667
	23 255	13 138
Equity of Canada		
Contributed capital	4 941	4 941
Accumulated net charge against the Fund's authority	(2 171)	(1 717)
Accumulated surplus (deficit)	3 086	(8 622)
	5 856	(5 398)
	29 111	7 740

Canadian Grain Commission Revolving Fund

Statement of Operations
For the year ended March 31, 2000

The accompanying notes form an integral part of these financial statements

(in thousands of dollars)

	2000 $	1999 $
Revenue		
Service fees	40 432	34 968
Special appropriations (note 4)	20 139	117
Parliamentary appropriation (note 4)	6 280	6 280
Japanese certification	958	908
License fees	223	220
	68 032	42 493
Expenses		
Salaries and employee benefits	44 452	43 054
Rent	3 322	3 314
Repairs supplies and miscellaneous	2 795	1 607
Travel and removal	1 822	1 332
Amortization	1 095	1 496
Professional and special services	1 024	1 123
Communications	881	1 019
Employee termination benefits	637	414
Postage and freight	363	285
Gain on disposal of capital assets	(67)	(2)
	56 324	53 642
Net income (loss) for the year	11 708	(11 149)

Canadian Grain Commission Revolving Fund

Statement of Accumulated Surplus (Deficit)
For the year ended March 31, 2000

The accompanying notes form an integral part of these financial statements

(in thousands of dollars)

	2000 $	1999 $
Accumulated surplus – Beginning of year	(8 622)	2 527
Net income (loss) for the year	11 708	(11 149)
Accumulated surplus (deficit) – End of year	3 086	(8 622)

Canadian Grain Commission Revolving Fund

Statement of Cash Flows
For the year ended March 31, 2000

The accompanying notes form an integral part of these financial statements

(in thousands of dollars)

	2000 $	1999 $
Financial resources provided by (used in)		
Operating activities		
Net income (loss) for the year	11 708	(11 149)
Non-cash items		
Amortization	1 095	1 496
Provision for employee termination benefits	637	414
Gain on disposal of capital assets	(67)	(2)
	13 373	(9 241)
Change in other assets and liabilities	(11 406)	6 564
Net financial resources provided by operating activities	1 967	(2 677)
Investing activities		
Capital assets purchased	(1 583)	(680)
Proceeds on disposal of capital assets	70	6
Net financial resources used in investing activities	(1 513)	(674)
Net financial resources used and change in the accumulated net charge against the Fund's authority during the year	454	(3 351)
Accumulated net charge against the Fund's authority – Beginning of year	1 717	5 068
Accumulated net charge against the Fund's authority – End of year	2 171	1 717

Canadian Grain Commission Revolving Fund

Notes to Financial Statements
March 31, 2000

1 Purpose and authority

The Canadian Grain Commission was established under the Canada Grain Act in 1912. It became a Special Operating Agency on April 1, 1992. The objectives of the Canadian Grain Commission are to establish and maintain standards of quality for Canadian grain, regulate grain handling in Canada and ensure a dependable commodity for domestic and export markets in the interests of grain producers.

Effective April 1, 1995, the Treasury Board approved the establishment of the Canadian Grain Commission Revolving Fund. The Fund has a continuing non-lapsing authority for up to $12 million as a drawdown from the Consolidated Revenue Fund for the provision of regulatory grain services including the market support activity of the Grain Research Laboratory. In addition, the Treasury Board agreed to have the expenditures related to Appointments by the Governor in Council of Assistant Commissioners and the Supervisor of the Winnipeg Commodity Exchange and a portion of the expenditures of the Grain Research Laboratory covered by Parliament appropriation. The maximum amount of the Parliamentary appropriation is $6.28 million.

On January 21, 1999, an order in council was passed which approved changing the Canadian Grain Commission status from a Special Operating Agency to that of a separate Government department. This change was operationally effective April 1, 1999.

On February 1, 2000, the Grain Futures Act was repealed and the Canadian Grain Commission's role as the Supervisor of the Winnipeg Commodity Exchange was assumed by the Manitoba Securities Commission. The $0.2 million of Parliamentary appropriation relating to this role ceases as of April 1, 2000, although an appropriation will be received in 2001 for actual expenditures incurred in effecting this transition.

In addition to the Canada Grain Act, the Canadian Grain Commission also exercises certain responsibilities under the Financial Administration Act and associated regulations.

2 Significant accounting policies

The financial statements have been prepared in accordance with the reporting requirements for revolving funds established by the Receiver General. The significant accounting policies are as follows:

Revenue and expense recognition

Revenue is recognized in the accounting period in which it is earned through the provision of goods or services, or when an event giving rise to a claim has taken place. Unless otherwise disclosed, expenses are recorded in the period they are incurred.

Canadian Grain Commission Revolving Fund

Notes to Financial Statements
March 31, 2000

2 Accounting policies (continued)

Parliamentary appropriation

The Parliamentary appropriation received for the Appointments by the Governor in Council of Assistant Commissioners, the Supervisor of the Winnipeg Commodity Exchange and Grain Research Laboratory expenditures has been recorded as revenue of the Revolving Fund. Parliamentary appropriations relating to employee benefits earned prior to April 1, 1995 and subsequently paid by the Canadian Grain Commission have been recorded as an account receivable from the Government of Canada.

Capital assets

Certain capital assets previously under the custodianship of the Department of Agriculture and Agri-Food Canada were assumed by the Revolving Fund on April 1, 1995. The assumed assets were considered to be contributed capital and recorded at the Crown's estimated net book value. Capital assets acquired subsequent to April 1, 1995 are recorded at cost. Capital assets acquired by the Grain Research Laboratory are recorded net of Parliamentary appropriation.

Proceeds from the disposal of contributed assets revert to the Consolidated Revenue Fund. Proceeds from the disposal of other capital assets are retained by the Revolving Fund.

Assets are amortized on a straight-line basis over their estimated useful lives, commencing in the month after acquisition, as follows:

Scientific equipment	5 years
Office equipment and furnishings	5 years
Operational equipment	10 years
Computer equipment and software	3 years
Leasehold improvements	5 years

Employee termination benefits

Termination benefits accrue to employees over their years of service with the Government of Canada as stipulated in their employment contracts. The Canadian Grain Commission provides for the severance entitlements earned by employees subsequent to March 31, 1995. No accrual has been made in these financial statements for severance entitlements earned by employees as at March 31, 1995. These benefits are estimated to be $6.1 million at March 31, 2000. They represent an obligation of the Canadian Grain Commission that will be funded by the Treasury Board.

Canadian Grain Commission Revolving Fund

Notes to Financial Statements
March 31, 2000

2 Accounting policies (continued)

Vacation pay

Vacation benefits earned are recorded in the Revolving Fund's accounts as they accrue.

Pension plan

Employees of the Canadian Grain Commission are covered by the Public Service Superannuation Act and the Supplementary Retirement Benefits Act. The Government of Canada's portion of the pension cost is included in the employee benefit charge assessed against the Revolving Fund. The actual payment of the pension is made from the Public Service Superannuation and Supplementary Retirement Benefits Accounts.

Interest on drawdown

Interest is charged to the Revolving Fund at a rate set by the Treasury Board. Interest charges are calculated monthly on the balance of the accumulated net charge against the Fund's authority. The Treasury Board does not pay interest when a surplus arises that results in no drawdown against the authority.

Canadian Grain Commission Revolving Fund

Notes to Financial Statements
March 31, 2000

(in thousands of dollars)

3 Capital assets and accumulated amortization

	Balance April 1, 1999 $	Acquisition $	Disposals $	Balance March 31, 2000 $
Capital assets, at cost				
Scientific equipment	3 063	150	28	3 185
Office equipment	775	56	20	811
Operational equipment	332	164	1	495
Computer equipment	3 380	998	256	4 122
Leasehold improvements	2 028	215	-	2 243
	9 578	1 583	305	10 856

	Balance April 1, 1999 $	Amortization $	Decrease $	Balance March 31, 2000 $
Accumulated amortization				
Scientific equipment	2 194	315	28	2 481
Office equipment	566	70	20	616
Operational equipment	128	36	-	164
Computer equipment	2 782	424	254	2 952
Leasehold improvements	1 271	250	-	1 521
	6 941	1 095	302	7 734

Canadian Grain Commission Revolving Fund

Notes to Financial Statements
March 31, 2000

(in thousands of dollars)

4 Parliamentary appropriation

Grain Research Laboratory

One half of the costs incurred by the Canadian Grain Commission Revolving Fund for the Grain Research Laboratory were covered by Parliamentary appropriation. These amounts are included in the financial statements and are summarized as follows:

	2000 $	1999 $
Salaries and employee benefits	3 766	3 712
Rent	752	611
Repairs supplies and miscellaneous	803	434
Capital assets	224	107
Professional and special services	83	77
Communications	33	65
Travel and removal	121	55
Postage and freight	39	27
Employee termination benefits	60	39
Total expenditures paid by Parliamentary appropriation	5 881	5 127
Less: Capital assets charged to the balance sheet	(224)	(107)
Grain Research Laboratory Parliamentary appropriation revenue	5 657	5 020
Appointments Parliamentary appropriation revenue	623	1 260
Total Parliamentary appropriation revenue	6 280	6 280

Canadian Grain Commission Revolving Fund

Notes to Financial Statements
March 31, 2000

(in thousands of dollars)

4 Parliamentary appropriation (continued)

Appointments

The costs associated with the appointments by the Governor in Council of the Assistant Commissioners and the Supervisor of the Winnipeg Commodity Exchange were covered by Parliamentary appropriation. These amounts are included in the financial statements and are summarized as follows:

	2000 $	1999 $
Salaries and employee benefits	470	929
Travel and removal	62	85
Professional and special services	6	53
Communications	38	70
Repairs, supplies and miscellaneous	15	47
Rent	24	58
Employee termination benefits	6	11
Postage and freight	2	7
Appointments Parliamentary appropriation revenue	623	1 260

The Federal Government announced changes to the CGC's funding arrangement with additional total interim Parliamentary appropriations of $83 million for the years up to and including the year ending March 31, 2004. The arrangement provides additional appropriations of $20 million in 2000, $14 million in 2001, $15 million in 2002, $17 million in 2003 and $17 million in 2004. The $20 million appropriation for 2000 was approved by the Treasury Board during the year, and was received subsequent to year end. The $14 million appropriation for 2001 was also approved by the Treasury Board prior to year end. Future years' appropriations will be confirmed in future Federal Government budgets.

Also included in special appropriations for the year is $139,000 relating to the Special Crops Insurance Program.

Canadian Grain Commission Revolving Fund

Notes to Financial Statements
March 31, 2000

(in thousands of dollars)

5 Lease commitments

Lease commitments under operating leases for office accommodation have been primarily entered into with Public Works and Government Services Canada. Future minimum lease payments over the next five years are as follows:

	$
2001	2 873
2002	2 617
2003	187
2004	122
2005	122

6 Contingency

Employees are permitted to accumulate unused sick leave. However, such leave entitlements do not vest and may only be used in the event of illness. The amount of accumulated sick leave entitlements that will become payable in future years cannot reasonably be determined. Accordingly, no amount has been accrued in these financial statements. Payments of sick leave benefits are included in current operations as incurred.

7 Insurance

In accordance with the Government's policy of self-insurance, the Canadian Grain Commission does not carry its own insurance.

8 Income taxes

The Canadian Grain Commission is not subject to income taxes.